

~~SECRET~~
~~SECRET~~
CIA INTERNAL USE ONLY

25X1A2g

██████████ 44205/67

Copy 5 of //Copies

12 JUL 1967

MEMORANDUM FOR: Director of Special Activities

SUBJECT: OSI Evaluation of PHOENIX Air Defense
Simulation Program

25X1A2g

REFERENCE: ██████████ 2462/67, 19 June 1967

25X1A5a1
1. The PHOENIX Air Defense Simulation was delivered 25X1A5a1
to OSA, Headquarters, on 27 June 1967 by the ██████████
██████████ As part of OSI's responsibility in developing the
PHOENIX Program, we were to evaluate the validity and
accuracy of the computer model to simulate the required
fighter air defense environment. In addition, the refer-
enced memorandum requested our "recommendations for future
sophistication, as well as necessary immediate changes,
in order to remain current with existing ██████████ operational 25X1D0a
interceptors and tactics." OSI has completed its evalua-
tion, and our findings are presented in this memorandum.

25X1D0a
2. The purpose of the PHOENIX Air Defense Simulation
Program is to provide OSA/IDEALIST with a mission planning
aid capable of evaluating the survivability of the IDEALIST
vehicle against fighter aircraft over an entire mission
route. In essence, PHOENIX was designed to simulate the
fighter reaction to the ██████████ 25X1D0a
██████████ to a single high-altitude, subsonic penetrator,
the U-2C. It is OSI's considered judgment that the
present PHOENIX Program adequately fulfills those design
objectives.

25X1D0a
3. The PHOENIX Program is capable of accurately
simulating ██████████ fighter reactions to the U-2 and evalua-
ting its vulnerability to this threat over a wide range of
known tactical conditions. The resulting mission surviva-
bility assessments produced by PHOENIX and studied on a
comparability basis should provide a reliable tool for
mission planning purposes. The present PHOENIX model was
designed and developed with data taken from past IDEALIST

25X1A2g

HANDLE VIA ██████████

CHANNELS ONLY

CIA INTERNAL USE ONLY



~~SECRET~~

CIA INTERNAL USE ONLY

44205/67

Page 2

SUBJECT: OSI Evaluation of PHOENIX Air Defense Simulation Program

25X1D0a

missions over [REDACTED] and, as such, should be restricted to mission planning use over the [REDACTED] air space. Its use for vulnerability evaluations over any other country using MiG-21's or any other type of fighter that must rely on close GCI control and the zoom attack is possible; however, further study and research, plus additions/modifications to the program, would be required to permit mission planning with PHOENIX over these countries.

25X1D0a

4. At the present time, OSI cannot furnish OSA with recommendations for future sophistication or immediate changes in program logic. The present PHOENIX Program has only recently been received at Headquarters, and OSI has not yet had the opportunity to make computer runs or study the results of OSA runs. OSI views the present program as a training program for the Automation Division and a "shake down" model for IDEALIST and, as such, expects some running time to elapse before any cogent evaluation can be made of its sophistication or programed logic. Almost all programs, large or small, require some changes and/or modifications throughout their life span; PHOENIX is the largest vulnerability computer program yet to be developed by OSI, and we anticipate our share of changes/modifications. It is for this reason that OSI, like OSA, believes the PHOENIX Program should continue to undergo in-house testing to verify programed command and control logic for several months before the program is used as an operation mission planning tool by IDEALIST. At the end of this test period, any required changes in sophistication and logic are certain to be more clearly defined.

5. As you know, the DD/S&T is to conduct a comparability vulnerability study of several reconnaissance vehicles for the National Reconnaissance Office. This study, code named [REDACTED] will consider both the SAM and fighter threats for each vehicle on a complete-mission basis. The PHOENIX Program is the analytical tool to be used to evaluate the mission vulnerability of these vehicles to the fighter threat. In the process of conducting this study, it is anticipated that the PHOENIX Program used for the NRO study will not only be extensively exercised and "debugged" but that several changes to simplify its use and facilitate its flexibility will be made. Additionally,

25X1A2d2

25X1A2g

HANDLE VIA [REDACTED]

Approved For Release 1999/09/07 : CIA-RDP71B00263R000200330004-8
CHANNELS ONLY

~~SECRET~~

CIA INTERNAL USE ONLY

~~SECRET~~

25X1A2g

44203/67

Page 3

SUBJECT: OSI Evaluation of PHOENIX Air Defense Simulation Program

at least two modifications in its sophistication are scheduled, i.e., the incorporation of terminal vulnerability and ECM/CM effects. All such changes and modifications to the original PHOENIX Program will be made available to OSA. OSI will keep OSA informed of our findings related to the PHOENIX Program during the span of the NRO study. In about six months, we should have a definitive evaluation of the program's validity, operability, and accuracy. At that time, we should also have a much better assessment of any required future changes/modifications in program sophistication and logic. If OSA has any questions concerning PHOENIX or its operation, [REDACTED] (DSD) will continue to be the contact point thereon. 25X1A9a

25X1A9a

DONALD F. CHAMBERLAIN
Director of Scientific Intelligence

Distribution:

- Cy #1 & 2 - Addressee
- 3 - D/O/OSA
- 4 - Ch/ADP/O/OSA
- 5 - Ch/IDEA/O/OSA
- 6 & 7 - Ch/DSD/OSI
- 8 - ADB/DSD/OSI
- 9 - ACMB/DSD/OSI

OSI/DSD/[REDACTED] (ADB):ecw/7621 (12 Jul 67)

25X1A9a

25X1A2g

HANDLE VIA

CHANNELS ONLY

~~SECRET~~